Reviewer's report

Title: Combined ANT2 shRNA and hNIS radionuclide gene therapy generates enhanced antitumor effects through phenotype modulation of cancer cells and increases CTL immune response simultaneously

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Reviewer: Dongmei He

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- Major Compulsory Revisions
  1. The apoptosis of cells is analyzed by two methods at least, so the authors should give additional necessary experiments to explain whether the cells are true apoptotic cells.
  2. The phenotype of cancer cells includes a lot of aspects, so only the change of the level of MHC class I and Fas gene expression can not be explained to modulate the phenotype of cancer cells.
  3. According the content of the manuscript, the title is not very suitable.
  4. The authors performed bioluminescence to visualize the antitumor effect, but the change of tumor weigh and tumor volume can directly show the antitumor effects. So at the end of treatment, there are not the direct results of tumor weigh and tumor volume. This is why.
  5. In Statistical analysis section, two separate experiments for statistical analysis is not enough, it should need at least three separate experiments.

- Minor Essential Revisions
  1. In method section, the section of apoptosis analysis is too wordy. It need be simplified.
  2. In method section, in some place, shRNA is used; in anther some place siRNA is used.
  3. In method section, “Scramble and ANT2 shRNA (100ug/100ul PBS) were intratumorally injected into tumor-bearing mice three times for 3days……”The authors should explain how many times for one day shRNA was injected. So, it should be revised.
  4. In result section, “(HBSS, 50µCi, 300µCi, and 600µCi, 0.0±0.0%, 5.2±1.0%, 10.1±0.5%, and 21.8±1.0%, respectively)……”These descriptions are confusing to me, please consider revising.
  5. Figure 2 (A) is fuzzy, please raise the resolution.
  6. In discussion section, the authors should mostly explain their own results.
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests’ below.